

IS 10238: 2001 Fasteners - Threaded steel fasteners - Step bolts for steel structures - Specification

IS 10238 outlines the specifications for step bolts used in steel structures, including transmission towers. This document was first issued in 1982 and revised in 2001, which ensure the safety and reliability of the critical components. It details the dimensions, material properties, and testing procedures for step bolts, emphasizing a maximum weight limit of 150 kg for individuals using step bolts for climbing, accounting for the person's weight, tools, and equipment.

The standard gives references of other Indian Standards (ISs) that ensures compliance to the various aspects of step bolt production and usage, highlighting a comprehensive approach to quality and safety. For example, the referred IS 1367 covers topics related to threaded steel fasteners, including material grades, tolerances, mechanical properties, coating requirements, and testing procedures. Similarly, IS 14394 addresses the specifications for hot-dip galvanized hexagon nuts used with step bolts, ensuring compatibility and performance.

The cantilever test described in the standard is crucial for verifying the load-bearing capacity of step bolts. This test involves subjecting the bolt to a 150 kg load, first as a pre-test and then as the main test for 10 seconds on each occasion, and observing for any permanent deformation. These testing requirements, coupled with detailed specifications for materials and dimensions, underscores the emphasis on safety and reliability in the design and use of step bolts for accessing steel structures.